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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/729,195	12/05/2000	Hitoshi Ishikawa	Q62115	6703

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SUGHRUE, MION, ZINN, MACPEAK & SEAS
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037-3202

EXAMINER

YAMNITZKY, MARIE ROSE

ART UNIT

PAPER NUMBER

1774

DATE MAILED: 04/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/729,195

Applicant(s)

ISHIKAWA ET AL.

Examiner

Marie R. Yamnitzky

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

Art Unit: 1774

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' amendment filed on 12/23/02 (Paper No. 15) has been entered.

2. Paper No. 15 amends claim 10 and adds claims 26-29.

Claims 1-29 are pending.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 stands rejected under 35 U.S.C. 102(b) as being anticipated by any one of JP 11-74079 or JP 11-185961 or JP 11-297473 for reasons of record in Paper No. 8.

5. Claims 1-4, 6, 10-16 and 18-22 stand rejected under 35 U.S.C. 102(b) as being anticipated by JP 9-268284 for reasons of record in Paper No. 11.

Art Unit: 1774

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5, 7-11, 17-19 and 23-25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over JP 9-268284 for reasons of record in Paper No. 11.

8. Claims 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 9-268284.

See the whole translation for this document. In particular, see the abstract (pages 2-3), the compounds on pages 14-24, the description from the top of page 38 through the third line of page 39, and the device examples which being on page 46.

Present claims 26, 27, 28 and 29 depend from claims 14, 18, 19 and 21, respectively. The prior art discloses compounds meeting the limitations of the compound required by claims 14, 18, 19 and 21. See the formulae for prior art compounds (48)-(52) on pages 23-24 of the translation. The prior art does not disclose any specific examples of compounds meeting the limitations of claims 26-29, each of which further requires that at least one of R_1 to R_5 and R_7 to R_{11} represent a saturated hydrocarbon group having 2 or more carbon atoms in which oxygen atom(s) may be inserted, but such compounds are within the scope of the prior art.

Art Unit: 1774

For example, the prior art teaches that R^3 , which corresponds in position to present R_5 , can be a substituted or unsubstituted alkyl group (e.g. see page 3). Exemplary alkyl groups are disclosed on page 12. The prior art also teaches that one or more of X^1-X^4 can be a substituted arylene group, and Z can be a substituted aryl group (page 3). As taught on page 13, the aryl group represented by Z can be substituted with an alkyl group such as the alkyl groups suitable for R^3 . Various groups of the exemplary alkyl groups are saturated hydrocarbon groups having two or more carbon atoms. The aryl group represented by Z may also be substituted with an alkoxy group as taught on page 13. Although the prior art does not name possible substituents for the arylene group represented by X^1-X^4 , one of ordinary skill in the art would have reasonably expected that substituents suitable for the aryl group represented by Z would also be suitable for the arylene group represented by X^1-X^4 .

Although the prior art does not disclose any specific examples of compounds meeting the limitations of the compound required by claims 26-29, such compounds are within the scope of the prior art. It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to make compounds within the scope of the generic formula disclosed by the prior art, to make compounds that are similar to the specific compounds disclosed in the prior art, and to use those compounds for the purposes taught by the prior art. One of ordinary skill in the art at the time of the invention would have been motivated to make other compounds within the scope of the prior art, and compounds similar to those disclosed by the prior art, with the expectation that compounds similar in structure will have similar properties and can be used for

Art Unit: 1774

the purpose taught by the prior art. See *In re Payne*, 606 F.2d 303, 313, 203 USPQ 245, 254 (CCPA 1979). Also see *In re Wilder*, 563 F.2d 457, 195 USPQ 426 (CCPA 1977).

Giving claims 18, 19, 27 and 28 their broadest reasonable interpretation, the hole transporting layer of claims 18 and 27, and the electron transporting layer of claims 19 and 28, may also function as a luminescent layer. Even if these claims were to explicitly require the hole transporting layer or electron transporting layer comprising the specified compound to be a layer distinct from a luminescent layer, it is the examiner's position that devices having such a structure/composition would have been obvious to one of ordinary skill in the art at the time of the invention given that the prior art teaches that the compounds have high positive hole transportability and electron transportability as well as having high luminous quantum efficiency. Based on the prior art teachings of the properties of the compounds, it would have been an obvious modification to one of ordinary skill in the art at the time of the invention to utilize the compounds in a hole transporting layer or an electron transporting layer of an electroluminescent device in addition to utilizing the compounds in the luminescent layer of the device. One of ordinary skill in the art would have been motivated to do so based on the prior art teachings that the compounds have properties that are desirable for these layers.

9. Applicants' arguments filed 12/23/02 and 03/24/03 have been fully considered along with the date presented in the executed Rule 132 Declaration of Hitoshi Ishikawa filed 01/15/03, but are not persuasive with respect to the patentability of the present claims over the prior art references.

Art Unit: 1774

Applicants argue that there are two distinct features in the compound of the present invention. One feature is the substituent at the R₆ position, said to result in higher stabilization of the compound, particularly against UV light. The other feature is the substituent at the ortho position, said to reduce intermolecular interaction.

Applicants further argue that the Rule 132 Declaration demonstrates that maximum brightness and maximum efficiency are greatly improved by using the compounds of the present claims.

Neither of the two features argued by applicants are required by claims 1, 3, 4, 6, 7, 9-13 and 22-25. None of the other claims requires both of the features argued by applicants. For example, claims 2, 14, 18, 19 and 21 (and claims dependent from 14, 18, 19 and 21) require a substituent at the R₆ position but do not require an additional substituent at an ortho position. As another example, claim 5 requires a substituent at an ortho position but does not require an additional substituent at the R₆ position.

The data presented in the Rule 132 Declaration are not persuasive as to the patentability of the present claims.

With respect to the rejections under 35 U.S.C. 102(b), anticipation "cannot be overcome by evidence of unexpected results or teachings away in the art". *In re Malagari*, 499 F.2d 1289, 182 USPQ 549, 553 (CCPA 1974) citing *In re Wiggins*, 488 F.2d 538, 179 USPQ 421 (CCPA 1973). (Also note that while the declaration refers to compound 1 as a comparative compound, compound 1 of the declaration meets the limitations of the compound required by claims 1 and 2.)

Art Unit: 1774

With respect to the rejections under 35 U.S.C. 103(a), it is the examiner's position that the declaration does not demonstrate superior/unexpected properties commensurate in scope with the claims that are rejected under 35 U.S.C. 103(a). For example, compound 2 of the declaration does not meet the limitations of the compound required by any of claims 7-9, 17-19 and 26-29. Compound 2 is also more restrictive than the compound required by any of the claims rejected under 35 U.S.C. 103(a) in that none of the present claims require three butoxy groups at ortho- and para- positions. More broadly, none of the present claims require substituents at each of the ortho-positions and the para-position of a phenyl ring attached to a nitrogen as in compound 2 of the declaration. For example, claim 5 requires one substituent at an ortho-position. The substituents at the second ortho-position and the para-position of compound 2 are not required by claim 5. It cannot be determined from the data set forth in the declaration that the presence of one substituent at an ortho-position is solely responsible for the improvements resulting from the use of compound 2 versus compound 1.

10. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (703) 308-4413. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

The current fax numbers for Art Unit 1774 are (703) 872-9311 for official after final faxes and (703) 872-9310 or (703) 305-5408 for all other official faxes. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (703) 872-9041.)

MRY
04/15/03



MARIE YAMNITZKY
PRIMARY EXAMINER

1774